

From: [ANDERSON Jim M](#)
To: [Eric Blischke/R10/USEPA/US@EPA](#); [Chip Humphrey/R10/USEPA/US@EPA](#); [Kristine Koch/R10/USEPA/US@EPA](#); [Sean Sheldrake/R10/USEPA/US@EPA](#)
Cc: [MCCLINCY Matt](#); [PETERSON Jenn L](#); [POULSEN Mike](#); [GAINER Tom](#)
Subject: RE: LWG Proposed Groundwater RAO
Date: 09/16/2009 05:08 PM

Eric & Chip,

I wanted to give you some feedback..., as you requested..., before your 9/17 EPA-internal ROA mtg. Our position on the use of the term “groundwater” in the RAOs hasn’t really changed from our position described in our 7/23/09 & 8/7/09 letters to you re: RAOs. To summarize that position..., I believe either the term “pore water” or “transition zone water” are more appropriate than “groundwater” because those terms more clearly define the precise physical medium where exposure is suspected to occur.

However, in EPA/partners & LWG discussions subsequent to our 2 letters..., we talked a lot about the need to address groundwater downgradient to an effective upland source control measure (i.e., groundwater in the stranded wedge) in RAOs. I understand this stranded wedge groundwater is the same as the LWG’s phrase “groundwater contamination beneath the Willamette River”. I think it’s important this stranded wedge groundwater be considered in the RAO discussion, but I don’t think stranded groundwater should be called-out specifically as an RAO. The main reason is because the LWG has not characterized the nature & extent of contamination in the stranded wedge & therefore it will be very difficult for them to design remedial alternatives to achieve that RAO. If EPA insists on requiring a consideration of stranded wedge groundwater in the RAO discussion..., perhaps you could make it Management Goal rather than an RAO.

If, however, EPA insists on creating a separate RAO for groundwater..., I have several comments on the LWG’s proposed groundwater RAO.

- 1) The current form & wording of the RAO is much different than the 6 existing RAOs. The groundwater RAO should be re-written to more closely match the other RAOs. For instance, the groundwater RAO should discuss how human & eco receptors would be exposed to groundwater & how the goal would protect human & eco receptors.
- 2) What are the “beneficial use(s) of groundwater beneath the Willamette River”?
- 3) Exchange the existing phrase “groundwater contamination beneath the Willamette River” for “groundwater downgradient to an effective upland source control measure”.
- 4) The groundwater RAO should not only “protect beneficial water uses”, but should protect benthic & aquatic receptors. Perhaps protection of benthic & aquatic receptors (& human receptors thru bioaccumulation) is implied thru the phrase “protect beneficial water uses”..., but it’s not as clear & explicit s it could be.

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Subject: Fw: LWG Proposed Groundwater RAO

Below is the proposed language groundwater RAO language from Carl.

Eric

----- Forwarded by Eric Blischke/R10/USEPA/US on 09/09/2009 02:22 PM -----

"Carl Stivers" <cstivers@anchorqea.com>

09/08/2009 08:35 PM

To: Eric Blischke/R10/USEPA/US@EPA, Chip
Humphrey/R10/USEPA/US@EPA

cc: "Jennifer Woronets" <jworonets@anchorqea.com>

Subject: LWG Proposed Groundwater RAO

Eric and Chip –

Here is the text that we discussed today.

RAO Groundwater - Address groundwater contamination beneath the Willamette River, as necessary, to protect the designated beneficial uses of the Willamette River from impairment caused by upwelling of contaminated groundwater, protect the beneficial use of groundwater beneath the Willamette River, and comply with identified ARARs for groundwater applicable to the beneficial uses addressed by this RAO.

This RAO applies to groundwater contamination beneath the Willamette River at appropriate points of compliance to protect these beneficial uses, with the understanding that groundwater plumes that impair the designated beneficial uses will be addressed through upland source control actions.

Thanks.

Carl

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